THE WESTERN FARMER AND GARDENER;

DEVOTED TO AGRICULTURE, HORTICULTURE, AND RURAL ECONOMY.

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THE portrait of our present number is that of Hachila. by Acmon; dam, Bertha; calved October 8th, 1839; the property of M. L. Sulivant.

☞ For Bertha's Pedigree, see page 145. For Acmon's pedigree see page 252.

To Mr. Darius Lapham.

August 12, 1842.

Dear Sir:—Your valuable communications in the Western Farmer and Gardener, showing your zeal in the good cause, with a scientific detail seldom met with, induce me to solicit of you an answer to the private letter of an estimable friend. I request, through the medium of *our* journal, for two reasons:—1st. That the enquiry itself will cause many to think on the subject—to examine, and try to give a solution. 2nd. That your information and tact may, in throwing light on the subject, still add to that enquiring spirit, as well as inform.

Some may think these queries are of my own suggestion—well, if so, let them benefit; the object is attained. But, the fact is, I had written to a very zealous friend of agricultural improvement, to throw his "mite into the measure;" in reply, he expresses a great want of knowledge, and is too young at the business to give him confidence—being, until within a few years, almost a prisoner within the walls of his closet, striving, by reflection and books, to enable himself to obey his Master's command, "Go thou and preach the kingdom of God." Within the past three years he has had a small farm, and devotes a portion of his time to the subject of agricultural improvement. With these preliminaries, I give the substance of the remarks of my worthy friend, Rev. J. C. K.:—

"I believe it is a well established fact, that the fertility of the soil is increased by keeping it covered when not in cultivation. For example—a perfectly clean plank, from which no manure could wash, if laid on your field, will so increase the fertility of the spot which it covers, as to enable you to designate the place on account of the superior luxuriance of the vegetation. Permit me to ask for the rationale. Is the earth in such a case sufficiently protected to permit the accumulation of nitrate of potash? or will saltpetre *accumulate* independent of the decomposition of *animal* matter?"

Saltpetre is technically called nitrate of potash, and is composed of nitric acid (aqua fortis) and potash. Nitric acid is composed of nitrogen and oxygen gasses, and when in a state that is commonly called nitric acid, it is a hydro nitric acid, being the dry acid in solution with water. (This is merely given to let many know somewhat of the article of saltpetre. All of these gasses, hydrogen, nitrogen, and oxygen, are in the atmosphere; that is, atmospheric air is composed of oxygen and nitrogen, but there is always moisture in the atmosphere, in which hydrogen must be a portion.)

We may, then, expect saltpetre to be "frequently found (as you are aware) in caves, in the clefts of rocks, and other places which are protected from the weather."

Some planters tell me, "the heat of the sun kills the soil. I acknowledge I do not understand that. I know light is a powerful agent, and decomposes many substances by its direct action upon their elementary constituents. But does the sheltering of the soil, for a given period, from the rays of the sun, prevent the decomposition of the salts

which are in it, and thereby increase its fertility? I am aware that the gradual decomposition of some of the salts produces the best food for plants, and causes them to grow with great rapidity. For example—I have put the beak of a retort under a hill of corn, which was partly filled with the carbonate of lime and diluted sulphuric acid, and the carbonic acid gas which was gradually effluminated caused that hill to surpass all the others in the rapidity of its growth. But is any thing like this produced by the action of light on the salts which the earth contains? In these queries we have some important matter to have made plain; much of summer fallowing is involved. And, if the unprotected surface of soil is really injured by exposure to light, heat, and consequent evaporation, are summer fallows advisable?

Where there has been some inches—say six or eight—of the top soil removed by the washing of a creek, or for the purpose of making up levies, the remaining soil, though it may be deep, will not produce the first crop as previously, which can be shown on a piece of very rich bottom land. Why is this? Yet earth taken from a depth of six, eight, or ten feet, will make corn show the difference to a row, as can be seen here. All this must depend on the same light, heat, and atmospheric influence; and your opinion is respectfully requested, by a friend to the good cause. Yours, &c., P.

The following letters have been forwarded to us by our friend, Dr. White.

Cincinnati, October, 1842.

Mr. T. White—Dear Sir:—I have taken the liberty of forwarding to you the tenth number of the Western Farmer and Gardener, in which you will find an article, over the signature of J. Townsend, that appears to reflect upon you, and, as I think, is calculated to excite suspicion against the utility of your Silk Machine; for, although he does not mention your name, his feelings appear very much irritated by a communication in the ninth number, over the signature of an old Silk Grower; and, I presume, it is pretty generally understood that you are the old Silk Grower. I had read the article, and was much pleased with it, for I had long thought something of the kind was called for, being convinced that much injury had been done to the silk business by what you call humbugging. Mr. Townsend appears to make a distinction, which I never saw made before, between feeding and tending a million of worms. In this way he seems to get over your remarks on that head, although he admits, that any "Tyro would be a dunce that would suffer himself to be so far misled as to attempt to gather leaves, feed, and attend even half a million in a season."

Now, sir, I had always understood that tending a lot of worms included the whole labor of gathering the leaves, feeding the worms, clearing away the litter, and doing all other things necessary for their support and success. If this is not the fact, why is it that our silk manuals inform us that it takes two hands to tend a million of worms the first week, six the second, ten the third, and from sixteen to twenty the balance of their time? Does it require all these hands on the old plan, in addition to those that gather the leaves, feed the worms, &c.? If it does, we will certainly have to adopt the use of some such apparatus as Mr. Spalding's, or give up the business.

What I wish to know more particularly of you, is, which of the different apparatus for feeding on is the best, Spalding's, Tillinghurst's, or Morris's? or are either of them of any special advantage? Can you inform me where I can get a stock of good healthy eggs, and what variety of worm do you consider the best?

Have you noticed that great numbers of multicaulis trees have died in this State within the past summer? If you have, can you assign any reason why?

I was at the house of Mr. J. Whitcroft, where I had the pleasure of seeing one

of your silk machines in operation; and, let Mr. Townsend insinuate or say what he will about them, I now inform you, that, if I succeed in raising silk next summer, I intend to have one.

You probably will not recollect me, (although we are old acquaintances,) as I was but a small boy when I left Mt. Pleasant, and was one of those who used to laugh at you, and ask you what you were going to do with your fodder, when you were hauling in leaves to feed your worms with. Little did I then think that I should ever see such an establishment as you have had the honor of starting in that village, where Mr. Gill, the present proprietor, is manufacturing almost every variety of silk goods. Little indeed did I think, thirteen or fourteen years ago, when, in company with some ten or twelve other saucy urchins, we used to make sport of you when hauling in your mulberry leaves, that such was to be the result of your labors and enterprise. But, sir, it is not with a view of flattering you that I give vent to my feelings on the present occasion. You have done your country an inestimable service, and immortalized your name; for Mr. Gill informed me, that if it had not have been for you that factory would never have been in operation, and that it was his opinion, that if that establishment had failed, the silk business would have been smothered under the weight of humbugs that had pressed upon it. He also assured that your silk machine was the best in the world, and that he had purchased the right of you for the larger part of the state of Ohio, and a considerable part of the states of Pennsylvania and Virginia; and I conclude that, with such testimony as his to back you, you have but little to fear. So go ahead; but don't forget to call at Springborough and see your friend and humble servant, ISAAC RAGEN.

Smithland, October 24, 1842.

Mr. I. Ragen—Sir:—Your very acceptable letter, accompanying the tenth number of the Farmer and Gardener, has come to hand. Your kind attention has brought me under very strong obligations to you—not so much for any service the number of the F. & G. will be of to me, as for the manifestation of good will on your part.

As for the article in question, from the pen of Mr. Townsend, it bears its own refutation on its face, and proves clearly that he has not understood what is generally meant by the term *tend worms*. The view you take of it is perfectly correct. Every person who knows any thing about raising silk, and the language used to convey our ideas on that subject, will view it in the same light you appear to have done. Tending a quantity of worms certainly means doing all that is required to be done for them; but it appears Mr. Townsend has not so understood it. It would probably have been more correct in me to have addressed a note to him, and learnt what he meant by the term *tend worms*, for it appears that our not understanding this term alike constitutes the whole of the controversy between us.

Now to your questions. You wish to know which of the different plans of feeding silk worms is the best—Spalding's, Tillinghurst's, or Morris's.—This is a hard question for me to answer, as I have never used either, nor seen any but one of them in operation; but I think they will all be found of great use, possessing great advantages over the old method of feeding worms; therefore, they will be of special advantage to silk growers.

Mr. John Kene, near Warsaw, Ky., has as good a lot of silk worm eggs as I ever saw; his worms were healthy and very fine. He has the peanut, the sulphur worm, and the Piedmontese, all of which are very excellent kinds.

I have noticed the great mortality among the multicaulis this season, and am inclined to the belief that it is owing to the mode of propagation that has been adopted. In this I may be mistaken; if I am not, it will not be long before we will be out of food for our worms, unless we commence propagating from the seed.

I think you rather over-rate my services in the silk cause in the compliment you pay me, relative to the factory at Mt. Pleasant. I admit that I am one of those who have borne the heat and burden of the day, but there are others who were in the field before me. Mr. Cobb, of Massachusetts, Mr. Smith, of Baltimore, and Miss Rapp, of Economy, were in advance of me, and would doubtless have sustained the cause if the factory at Mt. Pleasant had never been started.

Before I close this, it may be well for me to advert to another part of Mr. Townsend's communication. He pretends to understand me as saying my machine will manufacture silk into fabrics. I never meant that any more could be done with it than to prepare the silk for sewings, or for making any or every kind of fabrics; and, if my language has been so unguarded as to be susceptible of being construed as he appears to understand it, I will most cheerfully acknowledge I have erred, which I consider more correct than to commit another error in endeavoring to plaster it over.

With much respect I remian
yours truly,
THOS. WHITE.

Planting.

BY C. W. ELLIOTT.

It is best, when there is room enough for it, that fruit trees should be allowed a separate piece of ground, near the house. They can be better cultivated there; their fruits can be better cared for and collected; beside, except when loaded with fruit they are mostly unornamental trees, nor do they afford as good a shade as some others.

Most people wish to have an orchard in grass. It is certainly prettier, but it is doubtless injurious to young trees, and *almost* sure to produce disease and death. When trees from a nursery are to be planted in a sod lot, I would with a plough turn down the sod from one end of the piece to the other, about three feet on each side of the row for planting. This gives the roots sun and air, and does not sacrifice the whole ground. These spaces of six feet in width should be ploughed once or twice during the summer, and kept free from weeds and grass. Young trees require, for their well doing, cultivation and care. Most people either do not know this or will not regard it; but those who do will find their returns, in looking at fine trees and eating fine fruit, in half the time of the others.

The best young orchards are now regularly cultivated with buckwheat, (or other green crop,) which is ploughed under upon going to seed. It is well to plant peach trees alternately with apples or pears, for they mature soon and decay before the others require the room. I mean—plant the orchard as it is intended to stand at once, and then put between every two trees a peach or an apricot. Plum trees should be planted by themselves, where a few hogs can be kept, to eat those plums which contain the eggs of the curculio as they fall from the trees. If they are a short distance from any other plums, a year or two will destroy many of these troublesome little flies, and insure a crop.

Cultivators are beginning to find that good orchards are as profitable and pleasant an investment as they can make. I know of but one market in the country that can be called a good fruit market, that is Boston; and, notwithstanding the great quantities raised there, good fruits always command a good price. Here they can readily be sold at fine prices. This year, remarkable as it has been as a fruit bearing year, has seen peaches selling at four and five dollars a bushel, early apples at one dollar, fine plums (rarely to be had) at almost any price, pears (beurrigris and some others) at from two to four dollars, cherries at twenty-five cents a quart. One yellow Spanish cherry tree this year returned to a friend of mine twenty dollars in money. Strawberries, raspberries, currants, gooseberries, &c., will always sell readily

It is of the utmost consequence, when planting, that good trees be procured;

the difference in the expense between good and poor ones is nothing, in comparison with the disappointment that comes from waiting four or five years, and then finding but a poor or a common fruit, in place of the finer sorts which all should take care to get. Whenever it can be done, trees should be got near home; a long transportation is a great check. But there is one thing I would never do; I would not buy trees from a market-house or auction, when they can be had in any other way—there is no certainty but the roots may have been exposed for days, the sellers have mostly no habitation nor name, there is consequently no certainty that you get what you suppose you do. In fact, in the few instances which have come to my knowledge, when this kind of trees have borne, (as well as most of the French trees,) they have all proved untrue.

Ornamental planting is almost another thing, and can be spoken of with less definiteness. Nothing adds more to the beauty and comfort of a dwelling than fine shade trees; and hardly any thing requires more care or taste than their disposition. It is not desirable to shut out the view of or from the house, and yet you want enough for shade, seclusion, protection and elegance. Evergreens are troublesome; it is not easy to put them where they should be, or to plant few enough of them. I see one at each of the four corners of the door yard; I see one at each of the four corners of the cemetery lot, sometimes a fifth in the centre; garden walks lined with them. I cannot account for this propensity for evergreens, They are well with the rest, but meagre alone.

Modern planting, since Brown's clumps, has been mostly directed to groups, screens, belts, &c.; and the effects of a few years' growth are almost magical. I would not cut down those noble old avenues of elms and oaks that still dignify some few spots in this country; I am not sure but I should plant them again; but the graceful and artistical arrangement, harmonizes more with nature and rural matters, and, when judiciously done, provokes more love and admiration, I believe, in every body, than any other manner.

Hamilton County Agricultural Society.

The fair of this society was held at Carthage on the 14th and 15th days of September; and, notwithstanding the unprecedented pressure of the times, the farmers of the county gave full evidence that they were alive to improvement, a large body of them meeting on the occasion, and competition being at a high pitch.

The show of horses and cattle was particularly good. The sheep were excellent, but small in quantity. The show of hogs was deficient, looking at the fact, that the neighborhood boasts the possession of all the acknowledged best boars in the Union. Windsor Castle, Ben Shaker, Earl Craven, Sultan, Prince Regent, and Newberry, are all in this immediate district; but not one of them was on the ground. The second day was devoted to an examination of domestic manufactures and home produce, consisting of various grains, honey, silk, butter, &c. &c.; to the successful competitors for which medals and certificates were awarded and delivered; and in the afternoon an election of officers for the ensuing year was gone into.

The following premiums were awarded.

ON HORSES.

Thorough Bred Stallions.

Mr. Carey's Priam, a medal.
Heffner's Medoc, a certificate.

Draught Horse.

R. Mullen's Orphan Boy, a medal.

Brood Mares.

Heffner's Kirkland, medal.
McGill's dark brown mare, certificate.

Two Year Olds.

Rudicil's John Richards, medal.
Williamson's Leonidas, certificate.

One Year Olds.

McGill, medal.
Moon, (spotted colt,) certificate.

Pair Carriage Horses.

F. Cunningham, medal.

CATTLE.

Bulls.

Cooper's Prince William, medal.
Luckey's Goliah, certificate.

Yearlings.

Glenn's Magnum Bonum, medal.
Cloon certificate.

Cows.

Emma, (Cooper's,) certificate.
White Lily, (do.,) medal.

Two Year Olds.

Elliott's Heifer, medal.
Belni, (Cooper's,) certificate.

Heifer Calf.

Cooper, medal.

HOGS.

Elliott's Irish Grazier, medal.
Glenn's Boar Hanibal, certificate.

Young Boars.

Williamson's Young Newbery, medal.
Pearson's Joe Bacon, certificate.

Sows over Two Years.

Morton's Victoria, medal.

From One to Two Years.

Glenn's Miss Tichnor, medal.

Sow Pigs.

Pearson's Countess, medal.
Elliott's White pig, certificate.

SHEEP.

Best aged Buck, Smith, medal.
E. R. Glenn, certificate.

Best Buck Lamb, E. R. Glenn, medal.
Smith, certificate.

Best. Ewe, Geo. Smith, medal.
C. Foster, certificate.

Best Ewe Lamb, Glenn, medal.
Geo. Smith, certificate.

GRAIN.

Wheat.

E. R. Glenn, medal.
W. W. Carey, certificate.

Rye.

W. W. Carey, medal.

Barley.

John Martin, medal.

Oats.

E. W. Cunningham, medal.
W. W. Carey, certificate.

HONEY.

A. Sanburn, medal.
Isaac Riddle, certificate.

Committee on honey report, that they consider A. Sanburn's bee-hive worthy the attention of bee-breeders, and one of the best contrivances that have come under their notice.

BUTTER.

Mrs. Carey, best lot of Butter, medal.

DOMESTIC MANUFACTURES.

Mrs. Lusbee, Coverlid, medal.

Mrs. Carey, best pair Socks, certificate.

Silk.

P. I. Laberteau, for best Manufactured Goods, medal.

do. for best bushel of cocoons, certificate.

OFFICERS FOR 1842—3.

President,	E. W. Cunningham.
1st Vice do.	Genl. Williamson.
2d. do. do.	W. Carey.
Treasurer,	John Martin.
Corresp. Sec.	Chas. Foster.
Recording do.	E. R. Glenn.

Executive Committee.—W. Neff, J. Cooper, W. W. Carey, S. Cloon, Geo. Smith, Garret Williamson, R. A. Morton, G. Luckey, Jos. Ross, I. J. Riddle, Stephen Kemper, W. Peters.

For the Western Farmer and Gardener.

Crops in Mississippi.

July 20, 1842.

MR. FOSTER:

Dear Sir—The prospect of the crops in Mississippi is flattering beyond all precedent, and without a great change, commission merchants can this season sing their old song, "heavy crops," and with more truth than for two years. The cotton crop is not only large, but well squared, and for the season heavily bowled; even were it now to turn off dry, there would be nearly if not quite last year's crop of bowls, so large that they would be past shedding. Should it turn off very dry and hot, there would be a vast quantity of squares cast; but that must be, for no cotton could support such a prolific bearing. Storms, or the army worm, may yet turn our joy to sorrow; even then our prospect for meat and bread will prevent real despondence — the crop of corn is greater than the most ardent ever hoped for; this county of Hinds will not be able, with all her towns and villages, and the *city* of *Jackson* thrown in, to consume the corn; it must beg for purchasers at 25 cents per bushel. And pork cannot command over three cents this fall, and probably short of that.

Now sir, let us look at the fact:—a cotton growing country, settled by a helter skelter, careless, improvident set of farmers and planters three years since; in this short time, to make corn at 20 to 25 cts. per bushel, pork at 3 cts., and beef at $2\frac{1}{2}$ to 3, by retail. Can the South provide for herself? It looks so, and God speed the onward march; I love to see the sunny South, my native land, resolve to be independent—and this State, the derided, the abused — but a few years hence, and her citizens will be pointed out as—there goes a son of that prosperous country—he will be met with smiles—once independent, and her friends will multiply as the multicaulis. God speed her.

Yours, P.

Cow Pea.

I think the cow pea is really, to the South, what clover is to the North, requiring neither more expense, or more labor, in a series of five or ten years, than does the clover. And I am furthermore inclined to say, that we need not lose the cultivation of land and yet improve.

To cultivate the cow pea to the best advantage, both as regards product and improvement of land, is, the year you have land in corn, plant the pea between the hills of corn early in May, (I planted this year thus, the last of April,) ten or twelve peas in a place. The peas will be worked twice any how, which will give them a start, and the moisture in the ground will certainly insure a stand, whereas by postponing until "laying by" time, you may fail.

And when ploughing the last time, either sow down peas, and plough in, or after breaking out water furrow, drop and cover with harrow. If corn is planted in hills, there is only at each planting of peas the additional labor of a young hand, who can easily plant ten acres a day, by keeping just before the plow, in throwing last furrow.

The advantage here is, you will be certain of a crop of peas, and be pretty certain of covering the ground with vines; for, even should you fail entirely with the last planting, the first will almost cover. By all means strive to cover the surface so soon after stripping fodder as possible.

The reports on the improvement from the pea, make the thing almost beyond doubt, certain.

X in a quandary.

To Winter Cattle well.

A majority of farmers are only solicitous to get their stock through the winter, calculating that if they live until grass puts up, they are safe, thereby losing a number, not only in winter, but through spring and summer. If

cattle can be turned into the range in condition in the spring, they will generally return to fields in the fall in fine condition, and if so, they will keep through the winter on less. Because, being in good condition, they are more industrious, more thrifty, and can much better bear the changes of our seasons. If this be so, I would advise commencing in the summer, at least to salt bountifully, and strive, by a little extra attention, to get them to improve in the fall before our winter sets in. The wintering of cattle well can be greatly aided by sowing turnip-seed, in August or September, through the cotton field—or sow rye or Egyptian oats with the turnip; negroes picking cotton will sufficiently cover seed. Also, after gathering corn and what peas are required for seed and milch-cows, sow field in rye or oats, turn hogs in, they will cover when gathering the remainder of peas. Besides this, sow down a few acres of grass millet; it will give two tons of good hay to every acre of fair land. If you would go to the trouble, the Egyptian or corn millet will give you a great yeild of green food, though it makes good hay. Try something; we all need knowledge of the best pastures for the South West; if every one will try something, no kind of doubt but some one will succeed.

Yours, P.

For the Western Farmer and Gardener.

Ox Pole and Lap Ring.

I have used the above two articles for some time, and, believing the first is not only economical, but decidedly better than the ox chain, as also that the *lap ring* I use is preferable to any other plan I have tried, I beg, through your columns, to make both better known. I give neither as original, although I never saw, to my recollection, either any where else; the first I may have seen, read, or heard of it. In ploughing with oxen, or even in hauling and turning logs together, I think the pole is unquestionably better than the chain, and cheaper, as it has fewer links to break, and less costly in the outset. Take a piece of heart of white-oak, three inches square and 56 inches long, dress it round to about eight inches in circumference in the middle, slightly tapering to each end. Then on each end have an iron nose piece, similar to those on end of wagon tongue, with one link and a hook on one end, and some half a dozen links and a hook on the other, so as to make seven feet eight to ten inches long.

The lap ring has caused me so much trouble in shifting to different ploughs, &c. that I tried putting a hook, (being welded,) on the middle frisn of singletree; but this cost too much, and when broken the singletree was useless until going to shop. I then tried the S, being no more work than making a lap ring, only I prefer it a little stouter. I then have one end of the S wide enough open to catch into clevis, the other end turned in so as to be fast on the singletree. If I wish to change the draught, by moving into bottom, middle, or upper notch of clevis, I can do it as quick as you can take the pin out, to move the clevis out. This latter little implement I am greatly pleased with, and would not do without for twice its worth.

I am, dear sir, very respectfully,

Your friend, TANNER

June, 1842.

For the Western Farmer and Gardener.

Log Hall, July 8, 1842.

Mr. Foster:

Dear Sir—I have just received a letter from a gentleman of the highest qualifications as an agriculturist, on the subject of sheep husbandry, in reply to one I wrote him. It is full of matter of so much importance to the South, that even if I trespass on private correspondence, I must give it to our readers. I will first state, the writer is Dr. S. Gibbs, of South Carolina; a gentleman not only learned in book

knowledge, but is a practical farmer, and a large planter, keeping the two entirely distinct. Dr. G. is a *scientific, practical farmer*, and has been engaged in sheep husbandry thirty years. The experience of such a man is worth a whole library of theory, and the mere opinions of unreflecting men thrown in.

I wrote Dr. G. my object was to breed sheep having a choice carcass, weight and quality combined, with a medium classed fleece, as to length of fibre, fineness and weight. That I had laid down a plan to pursue, and although I was not disposed to change on light considerations, but if I was in error, would, upon good substantial reasons, change my plans, and adopt another. Although the Bakewells were not a favorite, especially to cross on a native flock, yet I should use one cross, then breed from the Southdowns of Ellma, entirely; striving to breed out all the Bakewell except weight of carcass, and when an opportunity offered, to give a dash of the pure Merino. That my sheep shed their wool too much, and from some cause, I could not account for, my ewes died in lambing, which never had occurred before. This is about the sum and substance of my letter, though probably more extended in some and less so in other portions—writing from memory, and my wishes and views. To which he replies. A portion I shall quote; in others give the substance.

"I have at different times bred from most of the breeds in vogue, Bakewells, Southdowns, Tunisian, and full-blooded Merinos. In England the high price and steady demand for mutton gives them a great advantage in the breeding of sheep; but with us the carcass is of little or no value, except under the peculiar circumstance of your being near to a market town—up here (upper part of South Carolina) for instance, you could not sell sheep for more than fifty or seventy-five cents, after the fleece is taken off, which induced me to adopt, up here, the full-blooded Merino, whose wool could bear the expense of transportation;—whilst in the low country I preferred those sheep the mutton of which was held in highest estimation, as I was then able to dispose of my surplus stock in the Charleston market."

He thinks the Merino mutton is equal to any "in the world," the "Welch mountains" not excepted, judging not only from his own taste, but from "the praise of it at my table." As to the Dishley and Bakewells, he says—"I confess, (they) have never been favorites with me, the mutton, though fat, is coarse; and I have ever found them tender, and more liable to the *rot*, than any other breed of sheep I ever attempted to raise."

The Southdowns he purchased were from Philadelphia—says "they were very inferior to the Southdowns of the present day," soon degenerating—these were the Southdown thirty-five years ago—of course applies not to our Southdowns. The opinion of a vast number is, that wool will deteriorate in the South; this I have before attempted to meet, and can now bring to my aid "proof as strong" as man can want. Dr. Gibbs has been breeding Merino sheep at his farm in Chester District, S. C., for thirty years, and remarks—"up here, my Merinos have *retained the quality of their wool unimpaired in fineness or in strength*, under the *great disadvantage too of breeding in and in for thirty years*, from the great difficulty of procuring a change of rams. But although their *wool* did not deteriorate, their *constitution* did; whereas they had before been very hardy sheep." The effect of breeding in and in entirely; for a cross on the Southdown since, has been attended with "evident advantage as to the increase of and ability to raise their lambs." Now sir, this, with the fact that a Mississippi raised sheep, owned by Mark Cockral, did take the premium at a fair in Lexington, Ky., even "Harry of the West" being an unbeliever, proves beyond all doubt, we can compete with the North, East, or

West, in wool culture. I thought of closing this article, and resuming the subject in our succeeding number; but the subject is one I have so much at heart, I must entreat you, and our readers, to bear with me. He then answers my queries in rotation. 1st, "As to the selection," the Dr. writes, of the breed, this must depend so much upon your location, and facilities to market, that with your better knowledge of what the demand is most likely to be for—whether for mutton or wool, and whether for fine or coarse wool—that you can better judge for yourself—the stock you are going on with seems to be well adapted for general purposes; though by breeding high in the South-down blood, as I would be inclined to do, the wool would probably become too short for blankets—except such as are used in domestic manufacture, and where it is not required to raise the nap; but would be very good for negro cloth, and the inferior satinetts—probably the cross with the Bakewell would give you a greater weight of mutton and of wool—but 'tis a breed, as I have said before, that I am not partial to, and would breed out of it, as you propose." He advises a dip of the Merino, as they give an adherence to wool, that no others do, being to us particularly advantageous, in enabling us to postpone shearing until a favorable season. I have seen many, very many, of even the natives, cast near their whole coat before the first of March; and this, too, when the winter had not been severe, no changes of feeding, and sheep not poor.

2d. "The *quality of wool will not deteriorate* in the South, and with proper care can be preserved as *pure* in the South as in the North. I have some Merino ewes and wethers, a cross of the Escurial and Gaudaloupe breeds, now giving as fine wool as the original stock, after breeding them in and in upon this farm without any change for thirty years." I have repeated this again in his own words; it is so good, it will bear repetition; and I want my friends of the South to take courage; if cotton goes by the board, we can raise wool for market, and "laugh and grow fat" on the finest mutton under the sun.

3d. "I have never found age make any difference as to our ewes producing good and strong lambs." He uses the precaution to separate lambs and rams from ewes "by the middle of July," so as to permit ewes to recruit until the middle of September, when led to rams, so as they may yean not before the middle of February. We who would make mutton our object must have our lambs fall in December, for lambs can, by a day or two's attention, stand any kind of weather that their dams can. This plan I shall pursue, for I tried the February and March lambs to my cost. One circumstance, the Dr. mentions—"I began with two Merino ewes; the dogs killed one, and the other gave me good lambs until she died of advanced age. I cannot find my memorandum just now, but am sure she was not under fourteen years of age." I must now stop, as my paper warns me of an unjustifiable length, and may probably resume the subject; but my object is, only to get my brethren to examine, if I have offered enough to induce them to take an interest—we may by unity do much—for the bane to sheep husbandry must first be destroyed; and I advise all persons whose sheep *become diseased*, and die off, without a certain disease,* to go to an apothecary's, buy a few grains of "strycnine," and cut open a sheep, skin a part, sprinkle a little of this strycnine on it, and leave it exposed; it will be a sacrifice to the gods more advantageous than many offered long ago. It will stop one kind of disease. Yours, P.

For the Western Farmer and Gardener.

Cattle for the South.

"Where there are ample clover-fields, luxuriant natural pastures, and plenty of roots and grain for spring,

* Allusion is here made to sheep-killing dogs.—Ed.

summer, autumn and winter feed, there can be no question of the superior adaptation of the improved short-horn Durhams; but wherever *short commons* is to be the fare, it appears to us to be inexpedient to attempt, on an extended scale, to accommodate a breed requiring such generous treatment and care, to diet so ill-suited to their wants;" so says the American Farmer, p. 412, current volume.

To the above extract, as one of the South, particularly where more is left to the management and control of servants and overseers than elsewhere, I give my most hearty assent. The impression long prevalent in the South West, that improved stock could not be raised, has given way; and least the impetus be given too strong the other way, I would discourage the introduction of pure Durhams, any how, for a time; and advise those who desire to improve, to procure the Devon, Ayrshire, Galloway and Tuscany; all being small breeds, (the last I know nothing of,) easier kept, and costing less. We can in a few years have fine pastures; but I doubt, even then, whether it be sound policy to breed the Durham; they require more attention and more feed than our habits and interest permit to be expended; they give more milk, (admitted, though not without some doubt,) and make more beef, than any other. But will not the three first above named give as much on the same food and same cost of animal;—for instance, I doubt not they can be brought to Mississippi, and Louisiana, and Alabama, at prices ranging from one hundred to one hundred and fifty dollars, Durhams at from three to five hundred, same quality, choice, select animals; then we get three for one. Will not three of them on same food, if Durhams be fed high, give equal quantities of butter (the best test) and beef? But more especially will this be shown in the Southern latitudes, where food is "short commons."

I admire the Durhams above all others, truly, and would be willing to pay for fancy; I preferring to be extravagant in those things combining the "useful and sweet," to spending in furniture and equipage; though it be bad economy for a community. I wrote to an old college mate a short time since for his opinion of the different breeds. He replies—"I could not advise any one, as to what particular breed he should have, without knowing minutely the qualifications of the owner, as well as his location and soil"—though his "partiality is for the Short Horns." He adds, "I have, however, a breed which I have made myself, I prefer to either." "I have them of the Durham form and size, Devon color, and without horns." This gentleman keeps of the improved Durham, Devon, Ayrshire and Tuscany breeds—in fine, he has the best breed of all kinds of stock; and his concluding remarks on sheep are worth a place in every paper. "No planter can have *too many* sheep, or *too few* cattle."

There is nothing more true, than that there exists an absolute necessity of improving our cattle. The natives are getting smaller and smaller; less fit for milk or beef, and equally as difficult to manage in the woods, as when under the care of savages. I know we can improve our common stock, but in all conscience, how long will it take? and how can we go about it? To breed entirely from the ancient stock, will do no great good, unless we feed better and adopt some mode of destroying those confounded little bulls that are every where. Then, if we must resort to this, is it not cheaper to get a few part bred or good animals, keep them up at once, commence a new stock, and gradually put the others into the pot. I have tried for hours together to get a swamp cow with young calf up, and have had help, but at last had to quit in disgust; whereas a boy of seven or eight, can drive a Durham almost any where. Those woods animals, though gentle as a bear when tied "hand and foot," in a lot, are equally as wild when in the cane.

Yours, &c. H. of H.

I would, in addition to the foregoing, remark—I wish not to give out the opinion that any description of stock can be improved from the beginning, nor kept in that state, unless by generous treatment. It is wild and visionary to talk of raising cows that will yield their eight to thirty quarts of milk, without food: it is equally so to think of sending to the shambles an ox weighing into the teens or twenties, without generous fare. There are some I know who can improve a hog on a few pounds of corn, (say five to seven,) three pounds per day, and how much more I cannot say. But all can't do this. I know from experience that a hog or a cow, or any thing, requires high keep to give great returns, and those who believe to the contrary, will find themselves deceived. Yet I know equally well that good stock will pay for this keep, if not extravagant, whereas bad stock is like throwing pearls to swine.

Bertha 2d.

Our portrait herewith is Bertha 2d., (the property of Michael L. Sullivant, of Columbus,) by Acmon, dam, Bertha.

For pedigree of Bertha see page 145.

For pedigree of Acmon see page 276.

Poultry.

All descriptions of poultry receive too little attention, not that poultry houses and poultry yards are necessary, but that from the fair dame herself to the lord and master, all the cry is, cotton, cotton, cotton. Cotton will do wonders; it can carry itself by wind, by steam, by waggon, any where; it can purchase any thing, and has, from a wife up to a jack-knife; for women have married a cotton plantation, or husband, with a mass of filth, to get the cotton.

If a poultry yard can be made, it were well to have a house in it large enough to roost your poultry; and make small boxes large enough for one nest—oak boards will do—or drive boards in the ground and cover; scatter them all about the yard, permitting hens to lay and set by themselves, and where they will not be disturbed. Want of gravel is more injurious than disease, and oats frequently worse than both. To keep out of the way of rats, make a rat proof coop, about four feet by six, floor and all complete; gather your young chickens—a good deal of trouble, this, for our fair dames—but frequently it is the only chance; and if their gruff lord and master will only provide the fixtures, all else will be done. Don't feed too freely—chickens once a day, turkies not at all after a week old, ducks several times. Confine hen in a coop for a week or so, then give them advantage of grass; insects, etc. will raise them. On their mornings pride turn turkies into field; gather them out of rain; and every night confine ducks in a square pen, until pin feathers are out, feed on fresh meat as often as convenient if every day. Let every farmer's wife try to sell. It will help along; and more than this—the farmer could not run about spending time and cash, if his sweeter half would thus try "to keep along, keep moving," especially if "smiles and sweet words" would be her attendants, in her daily avocations. Much can be done in the present march to agricultural reform by the females, and this thing, is look on aright and acted on too which is far better, by the ladies around Washington, Miss., for whom we bespeak every praise, and for the single, a choice of partner—master we say not—from the best in our land.

Beans for Winter.

Gather in July and August, as fast as they mature and dry, all your small lima beans (called Carolina and butter beans;) dry them thoroughly after shelling, and put away in a bag, hung up. They are very nearly as good in winter as the fresh bean is in July, and besides are a change when so few vegetables.

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Richmond, Nov. 7, 1842.

In the July number of the Western Farmer and Gardener, is an interesting article upon the growth and manufacture of silk, by our esteemed fellow-citizen John Fox, Sen., superintendant of the Silk Factory in this place. In the article referred to, he endeavors to correct an error which prevails in relation to the weight by which the different kinds of silk fabric are generally sold; but in not making a distinction between the weight of the avoirdupois and troy ounce, he may lead his readers into another error, by which the buyer of sewing silk would be the loser of a portion of his just due. Mr. Fox's language is as follows: "Many applications have been made to me, relative to the standing weight that sewing silk ought to be sold under; also silk prepared for the loom. In answer, I would say, in England, France and Italy, sewing silk is sold by troy weight, and silk prepared for the loom, by avoirdupois weight, which is sixteen ounces to the pound, troy weight being only twelve ounces to the pound. Numbers of storekeepers have bought sewing silk of our new raisers, say $10 per pound, the seller supposing twelve ounces to the pound, when, upon calculation, they have discovered the purchaser had taken sixteen ounces to the pound for the same money, thus depriving them of four ounces of their hard earned property." This last observation is not altogether correct, as I shall endeavor to show; although they were unjustly deprived of some ounces of their hard earned property, but not to the amount of four ounces in the pound.

This error arises from Mr. Fox's not keeping in view that an ounce troy weight is not the same as an ounce avoirdupois weight; the former, troy, consisting of four hundred and eighty grains; and the latter, avoirdupois, of four hundred and thirty-seven and a half grains. Now if a person in buying a pound of silk should get only twelve ounces of avoirdupois weight, instead of twelve ounces Troy weight, he would receive only 5250 grains, instead of 5760 grains, to which he would be justly entitled; and at this rate in purchasing ten pounds of sewing silk, he would be cheated out of about a pound, or ten dollars worth of silk.

The avoirdupois weight is that usually kept in our stores; and as the distinction between it and troy weight is not generally known, it is taken for granted that a pound is a pound, and nothing improper in the transaction is suspected. But as in buying or selling sewing silk by the avoirdupois weight, is, according to Mr. Fox's observations, contrary to the established practice of England, France and Italy, it would be wrong in Americans to differ from them in this respect. In order, therefore, that the dealers in sewing silk may have no misunderstanding upon the subject, I would again state that the pound should consist of 5760 grains, and if weighed with the usual weights found in our stores, instead of taking twelve ounces, or three quarters of a pound, as suggested by Mr. Fox, which would be only 5250 grains instead of 5760 grains, the weight given should be thirteen ounces and one sixth; thereby making a difference of one 1-6 ounces on every pound.

Respectfully, J. L. P.

For the Western Farmer and Gardener.

The Cut Worm.

October 16, 1842.

Last spring I selected what I conceived to be three different varieties of the cut worm, and put them into glass jars, for the purpose of ascertaining their origin. Two of the varieties appear to have been what I shall denominate the one crop, and the other was a two crop cut worm. They were of a greyish color, about an inch and a quarter long; kept under the ground during the day, and came up in the night and cut off some vegetable, and frequently pulled it into their holes under

ground; when disturbed they would roll themselves almost in a circle.

Early in June the two crop cut worms (which were rather of a darker grey than the one crop) came out moths, agreeing very much in color and appearance with those described by Dr. Horton, in the American Farmer. There were three of them. I put some red clover bloom in the jar, and upon it they deposited their eggs; and on the 24th of June the young brood of cut worms made their appearance. I fed them principally upon clover leaves. I suppose (for I did not count them) that there were five hundred hatched from the eggs laid by one or two of those moths (or candle flies.) They consumed so much food, that after they were nearly grown, I burned up all but a few, which I continued to feed, and on the 21st of July they wound up in mud balls, and passed into the crisalis state, from which were produced moths again, from the 5th to the 7th August. These moths (three in number) happened to be all of the same sex, so that I lost the breed without being able to carry the experiment any further.

Those that I denominated the one crop variety did not change from the crisalis state and come out moths until the 11th of August. They did not differ materially from the others; they were a shade lighter in color, and something smaller.

GRUB WORMS.

By grub worms, I mean a white worm about half an inch in diameter, and an inch and a half or two inches long. Of these I put into a glass jar, about half filled with rich earth, five. They appeared to me to be different varieties. Three of them were taken from sod ground in my cornfield, and two from my garden. These worms have been very destructive to our corn crops, eating the roots of the corn from the time it comes up until it should have been nearly grown. The hills attacked by them never producing stalks of half size, and rarely any grain. Most of the stalks shrivel and dry up in July or August.

The two from my garden wound up in mud balls, and came out "June bugs," a species of beetle. This kind of June bug I have frequently shook off my plum trees in the early part of the summer, and I have also seen them eating decaying fruit, especially the pawpaw and pear. They are of a yellowish grey color, with dark grey or black spots, about five eighths of an inch long, and three eighths or half an inch wide, very much in the shape of a Palma Christi bean.

One of them died in a few days; the other is still living. They came out of their balls on the 12th of August. The three from the cornfield never produced any thing; two of them died when they first wound up, and the other I injured in opening his mud ball so that it died. The crisalis was much larger than those from my garden.

BUD WORMS.

These worms, when grown, are from an inch and a quarter to an inch and a half long, striped with dark and light streaks; are deposited in the top of the corn when a few inches high; live upon the tender bud as it grows, so as to destroy the plant. I have seen them in bluegrass, wheat, rye, and almost all kinds of weeds. Those in bluegrass, leave it when they get larger than the stalk, and cut a hole into some weed, where they live until they are ready to go into the ground. They continue in the corn from the time it is a few inches high, until it is grown, but they will do very little damage to it after it has tasselled. They then confine their operations to the lower part of the stalk, where they make a hole and live upon the pith until they are grown, when they come out and descend into the ground, wind themselves up in mud balls, and soon go into the crisalis state, from which is produced a grey miller or moth. Those that I experimented upon, went into the

crisalis state on the 12th August, and came out moths (candle flies) on the 27th August. They were about three quarters of an inch long, from head to tail, and half an inch across from the points of the wings when folded in a resting state; of a dark shining silver grey, lighter color behind than before; a crest of feathers, or down, rising above the head from the back, and another a little further back; the down from the head to the roots of the wings longer than on other parts of the body, forming a considerable tuft nearly in the shape of a diamond. This tuft distinguishes this moth from the moth of the cut worm. The bud worm has done more damage to my crop than all other insects. I suppose, in my crop of corn, 130 acres, that I had five acres nearly destroyed by them.

The only remedy that I have found was to take them out of the stalk and kill them. The stalks where they are, may be known by the blades being cut in holes, or the bud being eat or killed; generally, when the whole top is dead, a hole will be found near the bottom of the stalk, where the worm will be found. Fires kindled in the fields, in May and August nights, destroy the Millers, as they are night flies.

SAML. D. MARTIN.

Grass Seeds.

The largest portion of the intelligent farmers of the South, are not inclined to believe that any kind of the cultivated grasses will succeed; and on this the whole croaker family find abundant food to gratify their croaking taste, ridiculing, abusing, "he is crazy," "he is indifferent to others' experience," "thinks he is so smart," etc. But Messrs. Croackers, big and little, old and young, pretty and ugly, (all of them are talented,) cease your gutturnal sounds. The farmers, practical farmers, are looking to this, and you may rely on it, *they will succeed*. Having had a little experience, with a limited success, and, by the bye, more than such experience merits, I only give data to start on, and beg of all who try, to give a statement of their success, good, bad, or indifferent, and how they managed.

If you desire a woods pasture, you must, so soon as your crop is off hand, in July, or fodder saved, go to the lot, and clean it up well, grub up every thing you can, cut down all small timber, girdle the balance, except oak and hickory; pile brush around gums, and burn it; roll logs and poles, and burn. Early in September, plough with jumping shovel, and, if you can, in a few days after, cross plough. Sow the first of October, or even in September, your grass seeds; and you may add three pecks of rye to the acre. The reason I advise rye, is, that it is very difficult for us to work a piece of land and not be trying to use it the first year. The rye will permit grazing when the earth is not wet, or rye too short. Take stock off, occasionally, until the first of March; then take them off entirely, except the grass should grow luxuriantly, then pasture a little. Avoid close pasturing; unless you do, the "nimble will," will take the field. The kinds most suitable for the South, is difficult to declare; the trials have not been extensive enough. The quantity of seed should be sufficient to secure a first rate stand immediately, and to smother down crabgrass and nimble will, and put it in well. Clover (red,) Lucerne, Timothy, Guinea grass, Gama grass, Herds grass, will certainly all grow; Musket undoubtedly, and perhaps orchard grass; besides which millet grass, requiring to be sown yearly, will turn out 5000 pounds of dried hay to the acre, if good land.

The most of northern farmers advise sowing two or three kinds of seed together; no doubt it will be best, as by that means you will be able to graze much earlier, and not injure the crop of grass.

The quantities per acre here given, are in quantities differing from the north, but believed to be best here, and are intended as if sown separate. If seeds should be mixed, less of each

will do, bearing in mind, as land is low, or damp, let Timothy and Herds preponderate, and give the greatest quantity of the particular grass you wish ultimately to occupy the land; but even thin blue grass will be the captain at last.

Sow red clover, ten to twelve quarts per acre; Lucerne, or French clover, from twenty to twenty four pounds per acre; Timothy, ten to twelve quarts; Orchard Grass, two bushels; Herds, or red top, from two to three pecks; Blue grass, two to three bushels; Millet grass, one to one and a half peck.

Probably red clover, four to six quarts — timothy, four to six quarts, and one bushel of blue grass, would make the best woods pasture—best to sow at least the clover separately, it being heavier, will not be sowed evenly, if with others.

Should weeds come up in clover, and grow first season, it will not the second, if enough seed, induce sufficient on Big Black of this.

Try something, and be not croaked out of it: unless you try, you will never know. Some folks take others' word, if against any thing, but deuce a bit will they, if in favor. This is a charateristic of the croaker family; a natural trait of character.

Sweet Potatoes.

There has been within the years '41 and '42, some exertions making to cultivate sweet potatoes different from formerly, and thought the best. The usual mode practised in the South is either to bed early in March, and set out as cabbage, as soon as the plants get out of the ground large enough to be drawn up. The land having been thoroughly broken up in winter or early in spring; about the first of April, bed up into ridges four feet apart, by breaking out with turning plough, not more than half what it will turn; thus throw up a high ridge, and on the top of this set your drawings eight or ten inches apart, after a rain; in about two weeks or so, if this ridge has become hard, it must be ploughed down just leaving enough to hold the potato and not break roots; scrape down with hoe, and mould up with plough; continue to transplant and replant in missing potatoes, as long as you have drawings and seasonable rain, until first of September. Keep clean with plough, by throwing up earth, until the vines have so covered the earth that no longer necessary.

Another plan is, to plant the potato, cut into pieces about one inch long, early in March; plant deep, so that the cold will not injure, nor rabbits find the potato. The ridge is thrown up as before, and holes dug in with hoe, or opened out with shovel, drop cuttings from nine to twelve inches apart, keep clean and earth up with hoe and plough as Irish potatoes.

But the plan now gaining in favor, is to plough land deep, and follow with a bull tongue in same furrow, early in the season. About the first of March, cross plough deep; and when a fit time to plant, lay off rows four feet apart, drop the potato and cover with two furrows. When the potato gets up, harrow so as to clean, and continue throwing earth to the plant; at every working run round, and run farther off, so, by the last ploughing you will have made a ridge, ploughed out all the blank, and kept clean. It looks pretty on paper; how it will succeed, no telling—suppose you try. Good, practical, home-staying farmers, say it is best, as they have tried. The sweet potato is the root for the South,—will feed every thing—only plant it and cultivate in any manner, and you will make but in proportion to your labor, kind of potato, and quality of soil. The crop may be made to exceed 500 bushels. Best variety is the yam, and land most suitable is a light soil on a clay subsoil.

Flowers.

Why should it be that flowering shrubs, and plants, and vines, should not ornament the log cabin as well as the painted mansion? It is not the cost-

ly summer house, fine vases and flower pots, nor costly fencing, nor high-priced plants, that add enchantment to the scene. There is as much delight in beholding the flowering beans, Indian creeper, mignonette, pinks, Canterbury bells, touch-me-not, sweet-william, etc. etc., that cost about four to five dollars for one hundred fine varieties, cultivated with taste by sweet women, aye, far more than a garden, hot house, etc., worked by a Dutch or an Irish gardener, or even by a black gardener, costing several thousand dollars; the passer-by is struck with the display of taste, and—my head for a foot ball—the presiding genius, if she be single, has had chances beyond those of her more wealthy neighbor, without these appendages; and, ten to one, a far more worthy man to offer her a chance of quitting that *wretched* state of single blessedness. Then, fathers and mothers, provide the necessary, and daughters, dear girls, cultivate them—they please the worthy boys greatly; pay less attention to imitating the daw, decked off in borrowed feathers, or imitating (in shape) the wasp. The cultivation of flowers is a healthy recreation; and they are emblems of life, death, and immortality.

From the Cleveland Herald.

Butter Making.

Traveling across the Western Reserve, a year or two since, in company with a gentleman from New York, I was surprised to hear him state, that in the eastern markets 'Ohio butter,' was a bye word, a term synonymous with *dirty butter*.

I attempted to defend the character of the production of our dairies, and we compromised matters for the present, by agreeing to rest the decision upon the samples we should meet with, on the tables of the public houses in the course of the journey. In the end, I had the mortification to find, in a majority of instances, either an oily, rancid, or a ring-streaked and spotted article was set before us, that came within the limits of his description.

This should not be. Butter is one of the staples of northern Ohio, and that which is well made, will, in all instances, command a cash price sufficient to compensate the dairyman for the extra labor he bestowed upon it.

My wife and myself claim the merit of being adepts, or as political demagogues would say, 'real workies' in this business, founded on a practical experience of near twenty years.

Our method I will detail; first premising that it is perhaps no better than that pursued by many others, for there is here and there a family that furnishes a prime article, though a large share of that which comes into market, is of an opposite character. The publication of our method may induce others to throw more light on the subject. In our hands it is invariably successful, but it is like certain chemical processes, made up of a series of manipulations, the omission of any one of which, may derange the whole, and endanger the result. Every part must be carefully carried out.

1st.—*Choice of Cows.*

A judicious selection from the common stock, I deem to be equal if not superior to any of the imported. The Devons and Bakewells I have tried, and found them deficient in the quantity of milk they afford. The Durhams I have not tested. The Gore breed was introduced into Portage county some years since, by a gentleman, I think, of the name of Thorndyke, from Massachusetts. A few of the descendants and crosses are to be met with in the south part of Trumbull county, and they prove to be the best of milkers. The quantity and quality of the milk surpass that of any other breed in our section of the country.

2d.—*Change of Pasture.*

To insure the production of the largest quantity of butter, a frequent change of pasture is required. A farm should be so fenced that the cows can be changed into a different lot every four or five days.

3d.—*Salting.*

A constant and full supply of salt should lie before our cows in some secure place. They will eat moderately what they require. If only occasionally furnished, they often take it in quantities so large as to act medicinally to their injury.

It corrects almost any bad quality of the milk arising from the eating of aromatic or bitter herbs, and also much of the natural odor that frequently impairs the sweetness of butter.

4th.—*Water.*

It is, perhaps, superfluous to add, that without a full and steady supply of this

article for his cows the hopes of the dairyman will never be realized. Driving them once or twice a day to a watering place will not answer the purpose.

A large and deep excavation can be made in the several pasture lots, or between two or three of them so as to answer the purpose, except in very protracted droughts. It should be so inclosed that cattle can approach it and drink without running into it.

5th.—*Driving, kind treatment, etc.*

Many a faithful cow has been seriously impaired by a careless boy, driving her furiously to and from the pasture. All harsh treatment of any kind, as scolding, striking, kicking, etc. is also detrimental. I have known many cows rendered worthless from these causes. The utmost kindness and gentleness of manner must be shown on the part of those who manage our stock. I once dismissed a hired man for striking my cows. Too much cannot be said on this point.

6th.—*Milking.*

This process should be done systematically, at regular periods of the day. Sun rise and sun set are perhaps the best periods, for immediately after the one and before the other, cows, in hot weather, feed to the best advantage. They are so much creatures of habit that the milkers should be changed as rarely as possible. A stranger is always regarded as an unwelcome visiter by a milch-cow.

7th.—*Cleanliness with the Utensils.*

The pans, pails, strainers, bowls, churn, and every implement employed in butter-making must not only be well washed but they must be thoroughly scalded with boiling hot water, and be perfectly dried afterwards, either in the sun or before a fire. This must be repeated every time they are used. Merely pouring boiling water upon them when loaded with sour milk or cream will only serve to scald in the bad flavor, if I may use the expression. Wash well at first, and then scald them thoroughly, if you would have sweet butter.

There are certain filthy practices which slatterns fall into that should be corrected, such as wetting the cows' teats with milk, and permitting it to drop into the pail; milking in the morning without washing the hands, etc.

8th.—*Milk-House and Buttery.*

In hot weather a good spring-house is necessary for the making of butter. It must be constructed of either brick or stone, and in no instance of wood, as that article never fails, in such a situation, to become mouldy and impair the flavor of butter. It must be built so that it can be thoroughly ventilated. A window should be placed on the north. east, and west sides, which must be furnished on the outside with wire gauze screens, and on the inside with tight shutters.

During the day, the shutters must be closed, and at night must be raised.

A spring may be dispensed with—and it is even problematical whether it does not, upon the whole, do as much injury by imparting dampness as it does good by lowering the temperature. A well constructed house, without the spring, will answer the purpose. It should be shaded with trees or arbors of grape vines. All mouldy and decaying wood work, boards, boxes, barrels, etc. must be kept out of it—also all foreign substances, as meats, fish, and vegetables. The air of my spring house was ruined for a week or more merely by placing in it a few mackerel.

At the approach of autumn, a cool and well ventilated buttery, shaded well without, and kept clear of all foreign substances that can impart a bad flavor, is preferable to a spring house, as the latter becomes too damp, at that season, to allow the cream to form well.

9th.—*Straining the Milk.*

This should be attended to without delay after milking. The new fashioned tin strainer (a tin pail with a wire gauze strainer) is far preferable to the old fashioned cloth strainer. Either tin pans or stone crocks may be used for holding the milk; I know of no preference, except the tin work is liable to rust in a damp spring house. Earthen crocks should never be used, as the lead in glazing may act chemically with the cream or butter so as to poison it.

10th.—*Skimming of the Milk.*

In hot weather the milk may be allowed to curdle before this operation is performed, but if it be delayed any longer a thin watery fluid will form between the milk and the cream, after which the good qualities are inevitably destroyed. It is necessary, in midsummer, to skim the milk every morning and night. This point must receive the strictest attention; neglect of it often gives a streaked or mottled appearance to butter, as well as impairs its flavor.

11th.—*Cream.*

As soon as it is collected it should be placed in a stone crock, which should be either hung into a well or set up to the brim in the spring within the milk house.

It has been thought by some that the cream improves, or matures, by exposure to the air after it is collected, and that placing it in a situation as cool as a well, or spring, is unfavorable for that change. This view may be correct late in autumn, when it becomes sometimes necessary to mature it by artificial heat, but during our hot and dry summers we believe the course recommended is to be preferred.

12th—*Churning.*

This operation must be resorted to as soon as a supply of cream is obtained, and in hot weather cannot safely be delayed beyond the third day.

A variety of patent churns have been palmed upon the public, none of which, we believe, is to be preferred to the old fashioned upright dasher, or the barrel. We at present employ the former, and by the aid of a well adjusted spring-pole, connected with the top of the dasher-rod, can fetch twelve or fifteen pounds of butter, in from fifteen to twenty-five minutes, without any violent efforts. The barrel-churn is not as easily cleansed.

13th—*Working of Butter.*

This must be repeated until every drop of buttermilk is expelled—twice or three times will be necessary—nor must it be delayed too long, till a change begins to take place in the remaining buttermilk, as that will impair the flavor of the butter which no subsequent treatment can restore.

The operation must be done in a bowl, by the aid of a wooden spatula, or paddle, and in no instance should the hand come in contact with the butter, if it can be avoided, as the warmth of the individual renders the butter oily and bad flavored.

Some persons destroy its sweetness and richness by washing out the buttermilk by means of cold water—a practice always to be avoided.

14th—*Salting.*

The salt should be added at the commencement of the first working. Much of our western butter is injured by the employment of the common New York salt. The finest *ground* article should be used. It can now be obtained, in sacks, of our merchants, at a reasonable price.

15th—*Preserving Butter.*

That made in the spring and summer may be laid down in stone crocks, and the surface covered with brine of strength sufficient to bear up an egg. In winter this will answer all the purposes for cookery, and even for table will be sweeter than much that finds its way there.

Rockport, Oct. 1842. J. P. KIRTLAND.

Worms in the Heads of Sheep.

Worms in the heads of sheep result from a fly depositing its eggs, during the summer months, in the animal's nostrils.

The sheep knows this fly, and as soon as she hears it, she starts off, rubbing her nose on the ground for rods at a time, till she feels that the danger is past.

Mr. Colt, of Pittsfield, remarked to us, that, during fly time, sheep would retire to the shade as soon as the dew was off, huddle close together, then, by stamping and keeping their heads close to the ground, they could defend themselves from this troublesome and *often very fatal enemy.*

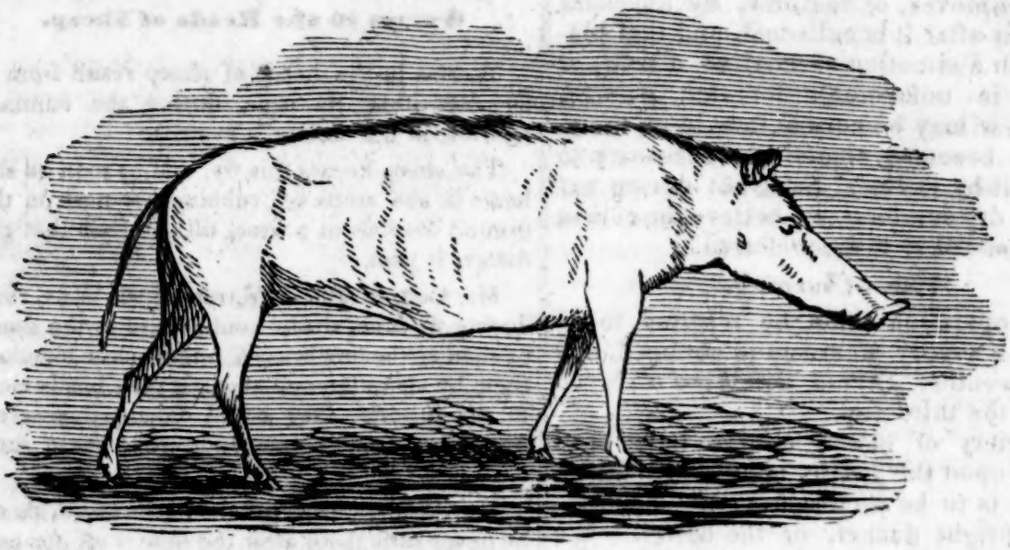
Having thus observed the habits of the sheep, he never salts them after the dew is off, for calling them out for this purpose would expose them to the attacks of the fly. He observed that his sheep crowded together where they could stir up the dust. He inferred from this, that the dust adhered to the nostrils and operated to protect them from the attack of the fly; so he ploughs spots, where his sheep congregate, that they may have the benefit of the loose earth.

Who has not seen the sheep sally out from the shade, and crowd to feed, and before she had proceeded five rods, run suddenly back again, ploughing the earth as it were with her nose?—She heard, or was attacked by the fly. Thus it is easy to tell when this dangerous enemy to the favorites of *Pan* is in the field, and the flock requires your peculiar care and attention.

Boston Cultivator.

Rule for ascertaining the weight of Cattle by Measurement.

Measure the girt close behind the shoulder, and the length from the fore part of the shoulder-blade along the back to the bone at the tail. Multiply the square of the girt, by five times the length, and divide by 21; the quotient is the weight, nearly, of the four quarters, in imperial stones of 14 lbs. avordupois. For example—If the girt be 6½ ft. and the length 5¼, we shall have 42¼, and 5¼ by 5=26¼; then 42¼ by 26¼=1109 1-6th; and this divided by 21=52 4-5ths stones nearly. It is to be observed, that in very fat cattle they will weigh about one-twentieth more, while the very lean cattle will be one-twentieth less than the weight obtained by the rule.



Cotton Planter, or Sand Hill Hog.

Alabama, 10th July, 1842.

Mister Editor—There has been much said and written of late years about imported, and what are called *improved*, breeds of pigs; and I hope you will indulge me, in a few practical remarks on this subject. I am a *practical* farmer, and have profited much by experience and observation, and think I have learned something about "fancy stock."

The "animal" which I wish to bring to the especial notice of your readers, is, what may be called the "Cotton Planter," or what is commonly called the "Sand Hill Hog."

I am sorry that I have not a specimen before me; but I give you above, from memory, a pretty faithful sketch of a favorite old stock boar of one of my neighbors, who I think possesses the "purest blood" in South Alabama. The picture is the more faithful, as you will perceive that his ears bear strong evidence of having been gnawed off by dogs while depredating on cornfields.

There are many disputes about the characteristic forms of different breeds of hogs, but about this there can be no dispute—*the blood speaks for itself.*—Just look at the magnificent animal above, and say whether any one can be so stupid as to confound it with the Berkshire or any other living animal? The long, clean, bony head—the thin, flat, lean body—the delicate razor-blade legs—the remarkably small hams—the straight tail, all bespeak *genuine blood;* color in a hog is nothing; the form is the thing we are all after.

About the origin of this hog there is much difference of opinion amongst naturalists; but the most plausible opinion is, that it is descended from what is called the "Sanglier," or wild boar, in France. It is found still in many parts of Europe, and is the hog from which the celebrated Westphalia hams are made. The meat of ours is quite as delicate, and never has that gross, disgusting taste which our western bacon has; it is the only thing of the kind a gentleman should eat; and, as *you* well know, it is from this hog that the delicious hams of Carolina are made.

They require little or no feeding. On my father's farm, (which was in the Sand Hills,) my business was minding the hogs, when a boy; and I very well recollect that from two to three shirt tails full of corn, was considered a very liberal allowance a year, per head. They have the rare talent of providing for themselves, and if food is not to be found in the woods, they are sure to find it in somebody's cornfield—their flatness giving them great facility in slipping through fences.

I have never seen the experiment tried myself, but I am informed by my friend Col. John Smith, (who has been extensively engaged in stock breeding,)

that a very remarkable, and in fact almost incredible transmogrification is produced in the "Sand Hill Hog" by putting him up when young, and feeding him bountifully on corn. The form is made to assume a marvellous resemblance to the Berkshire!! and the tail, which is naturally straight, is made to curl as beautifully as the ringlet of a young lady.

But the most valuable and characteristic trait remains still to be told, viz: his great *activity* and *speed!* It is well known at the South that the negro is the natural enemy of the whole hog race—it is indispensably necessary that we should have a hog that can *out run* a negro, fair race, and, as they say in Kentucky, a negro "can't hold a torch for a Sand Hill hog to run by." This remarkable and important fact, was first brought to my notice by Gen. Wade Hampton, who was a great connoisseur and had a great fancy for all kinds of fine stock. As he expressed it, a duck-legged Berkshire stood no chance on a cotton plantation.

Yours, etc. N.

P. S.—If you or any of the breeders in your section, wish to have some of the genuine "Cotton Planter" stock, I shall be happy to supply you, on *reasonable terms.* Prices from $100 to $500, according to age and *form.* Breeders cannot be too cautious about the character of the person from whom they purchase. I believe I can conscientiously say, (and my neighbors will bear me out,) that I never intentionally told a falsehood, when the truth would answer my purpose; and every body here knows that my stock of hogs is unsurpassed.

From the Farmer's Cabinet.

Raise more Poultry.

Since the time that Esop wrote the history of the country maid and the milk pail, poultry and eggs have not sold for a better price, or at a greater profit, than they have within these few years. This is believed to have grown out of the immense amount of traveling, which has been increased and promoted by the fleetness and cheapness of railroad cars and steamboats. But whatever may be the cause of it, it is our interest to sell an abundance of eggs and poultry, so long as we can get a good profit by it. I was pleased with the suggestion made by your correspondent Q., in the last number of the Cabinet, for feeding poultry with boiled potatoes, inasmnch as it is cheap food, and may always be at hand.

A farmer near Liverpool, England, keeps a large stock of poultry of various kinds in the same inclosure, with singular success. He has nearly an acre of land enclosed, with a close fence about seven feet high. Within this enclosure are put up sheds for the different kinds of poultry, to secure them well from the rain, which is of great importance. There is a small stream of water which passes through the lot, to which they all have access, and they are regularly fed, three times a day, with boiled potatoes, which is their only food, excepting what grass, insects, and worms they pick up in their movements through the lot.

All young poultry require to be kept dry, and most old ones are the better for it, and it is said that young turkies, during their tender age, are the better for having a small quantity of red pepper occasionally mixed with their food, to stimulate their digestive organs to greater activity, when they gormandize too much.

The practice of cutting up chives, garlic, or onion tops, and mixing them occasionally with the food of young poultry, is well known to most good housewives, and is thought to be very serviceable in promoting their health. K.

From the Boston Cultivator.

Foot Rot in Sheep.

Having seen several recipes in the Albany Cultivator on the treatment of the foot rot in sheep, and having tried them all, to very little or no purpose, I discovered by accident a cheap and sure cure, without much trouble, or injury to the sheep — namely. Take a few bushels of lime, and put it near some place over which the sheep have to pass, say the bars; and, as it is natural for the sheep to jump, take notice where they alight, and place the lime there, about three inches deep. This did effectually cure my flock in about one week. The lime should be fresh and slacked, and not less than three inches deep; if deeper, it might take the hair off the leg above the hoof. T. BAYNES.

Wilmington. Del., 8th month 4th, 1842.

Water-Rotted Hemp.

The Secretary of the Navy transmitted to the Hon. J. B. Thompson, Member of Congress from this State, the following communication "from Mr. Browne, the agent of the Navy Department, employed to visit the hemp growing country," which is published at the instance of Mr. T. for the information of the community:

Washington, 11th June, 1842.

Commissioners of the Navy—

Gentlemen; My last was under date of 22d of May, at Cleveland, Ohio; since which time, I have been to the Southwest part of this State, and from thence to Chillicothe and Steubenville; the region of country through which I passed, is the principal hemp producing part of the State. The soil is well adapted to its cultivation, and there is every facility for water-rotting; still, there is not, from what I could learn, so much attention given to its cultivation as formerly. In the vicinity of Chillicothe, it is almost abandoned, and the attention of the farmers given to other branches of agriculture. I saw no water-rotted hemp in this State; the dew-rotted, which I examined, was of an excellent quality, the fibres being strong and soft, and cleaned in a skilful and workmanlike manner; had it been water-rotted, and the like attention paid to cleaning it, it would have been very superior and have passed inspection.

Here, as in every other State, which I have visited, it has been my endeavor to impress upon agriculturists the importance of water rotting, with a view to the best being used for Naval and Mercantile purposes. Here, as elsewhere, much ignorance prevails on this really simple subject. The manner in which I have travelled, made it impossible for me to see *all*, who are interested in this business. I therefore caused to be published in several agricultural and other papers, *my* plan for water rotting; I premised that running water was indispensable to water rotting, in a suitable manner.

Where there is a spring, branch, or stream of water, build a dam across with a flood gate; where the brook or stream is shallow, excavate to the depth of 8 or 9 feet, making the banks gently sloping. In the bed of the stream, place strong timber sleds, with a frame or stakes to hold the straw hemp, placing stones upon it to keep it under water, then shut the gate and overflow the hemp. In warm weather, six or seven days will be sufficient to water rot—the colder the atmosphere, the longer time will it require. Any one at all conversant with dew rotting, can tell when it is sufficiently water rotted; it is when the lint or fibre will start freely from the wood. When this is the case, lift the gate and let off the water; then draw the sleds with a strong team, to the upland, where it is intended to dry the straw; it will be then so well drained as not to wet the laborers employed in spreading. Where it is difficult to excavate, vats can be made to rot in, but in all cases the water should be let off. As far as my information extends, the pervailing opinion that it is injurious to health, is altogether erroneous; where the water is let off, indeed there is not so much of an offensive smell, as from dew-rotting. This plan is so simple that it can be adopted by any hemp grower.

If the right spirit prevails, in the vicinity of every hemp growing region, factories similar to Mr. Olcott's of Newport, Kentucky, will be erected.

In a communication of the 29th March, I gave you my opinion and views respecting this mode of preparing hemp. A uniformity in the quality of hemp, the mode of packing, &c., will be thus obtained, which cannot be had by the various hemp growers throughout the different States, or till an inspection is established by the State governments, similar to the tobacco inspection.

I have reason to believe that Olcott's plan will be adopted immediately in Kentucky and Missouri. The estimated cost of an establishment of the kind, is $10,000. In such an establishment three hundred tons of hemp can be made per annum, taking it from the straw, and packed in bales, and fit to be taken into the spinning room without further preparation.

The cost of thus preparing a ton of hemp, does not exceed thirty dollars, which must yield a very fair profit at the price the Russian hemp has averaged in our markets the past ten years; with the bonus offered by the Department, it is a great business.

My instructions directed me into the States of Virginia, Kentucky, Tennessee, Ohio, and Missouri, and to make enquiries in those and the neighboring States. When I left Missouri, instead of going on a boat to Cincinnati, and from there through Ohio, I thought I could better forward the wishes of the Department, by going through Illinois to Ohio.

Much of the soil of Illinois is similar to Missouri, and will be adopted for hemp. In this State, also, there are fine streams for water rotting, and within a year or two, much attention has been given to the cultivation of hemp. I was shown a few lots of very fair quality, the produce of last year. It was dew-rotted. The bottom lands of Rock river, I think will produce hemp equal to any soil in the world. Near 2,000 tons of hemp was grown in this State in 1841; a larger quantity will be produced this year, and much of it will be water-rotted.

In Indiana, also, there is much spirit manifested to produce an article for Naval use. I became acquainted with a number of gentlemen, familiar with the soil and climate, and they all assured me that hemp was made there equal to any produced in the adjoining States. I addressed letters to a number of hemp growers, stating the views of the Government, and of the wish to encourage the growth and wa-

ter-rotting of hemp, also my plan of water rotting. I did not feel myself authorized to travel in this State.

I was directed to "ascertain the prices at which hemp properly water rotted can be obtained; deliverable at points convenient for transportation by water." I do not hesitate to say, that at 180 to 200 dollars per ton, all the hemp that is wanted for the Navy can be obtained the next year, and that these prices would be preferred, deliverable at a "point convenient for transportation by water," to $280 in Boston.

There are many hemp growers, in a small way, who produce a few tons only, and who would not send to Boston. This small quantity is generally prepared in the best manner. From the experience however which I have had, I should not think it expedient to receive hemp in this way, certainly not after next season. A want of confidence in their own skill, leads them to desire this mode, till they find they have succeeded in producing an article which will bear inspection.

"You will ascertain and report the terms upon which water rotted hemp can be obtained, and the quantities, subject to inspection of the yard in Boston, where the hemp is to be delivered."

I found an impression prevailing that the hemp was to be inspected and paid for on the spot; and great repugnance was manifested to sending it forward. I can form no definite estimate, as to the quantity which will be sent forward, and should not be surprised if the entire quantity wanted by government, should be offered for inspection the next season, as I was informed that a number of people in the different States, interested in the subject, were disposed to advance to the small farmers, taking their hemp as security.

The whole country, but more particularly the States of Kentucky and Missouri, seems alive and awake on this subject, and it is estimated that the quantity will be increased from last year, full 40 per cent. Much of it will be water rotted—$300 per ton was expected, but no doubt $280 will command all that is suitable. I saw a number of lots of hemp, which were called water-rotted, that I could not, and would not advise to send forward; some ill feeling was manifested at my refusal, and I suppose some of it may be sent to Boston, only to be rejected.

To give universal satisfaction, I know to be impossible; it will require some firmness to be impartial, but I am determined to exact a rigid adherence to the sample hemp, which I have distributed. In one instance, I was denounced as being partial, and threatened with a complaint to my employers. Should it be determined to have a final inspection in the hemp region, I have no doubt, the agent would find himself very unpleasantly situated. My opinion is, that the States of Kentucky and Missouri, will continue to be, as they now are, the great hemp producing States. The climate and soil is admirable and well adapted to the production of hemp. I should give the preference, however to Missouri. Their population is also well calculated for the laborious work of preparing it for the market. I doubt if the free States can successfully compete with them in this particular branch of industry, and besides many of the planters of these States, have made hemp growing the business of their lives, and are ready and willing to go into water-rotting on an extensive scale, with the purpose of furnishing all the hemp, that may be wanted in this country, for naval and mercantile purposes. By many, a right feeling is manifested, and the encouragement offered by the Department is all that was expected; with others, however, this is not the case, and it is hardly worth while to attempt to satisfy their unreasonable requests.

There is no mistake, as to the capability of soil and climate in producing hemp equal to any in the world, and that an ample supply will here be furnished within a few years, for our entire navigation, I have not the slightest doubt.

Passing ,through the country, with the expedition which I was obliged to use—in order to accomplish the object of my mission, within a specified time, that all the hemp growing country, should be advised of the intention of government before it was too late to sow hemp—I had not so great an opportunity, as I could wish, to look about me; but I saw enough to satisfy me, that God has bestowed his blessings on this land without stint. With an admirable climate, and a soil of great fertility, we are capable of producing any thing for our comfort, convenience, and defence, thus rendering ourselves completely independent of foreign nations.

I would recommend that it would be expedient to advertise in a few of the prominent western papers, stating the quantity of hemp wanted; the price to be paid for it, the mode and manner of its being packed, and the place of its delivery, &c. In this case, the Agent would not be wanted there, before October, as the breaking is commenced with frosty and cool weather, and continues till May.

Your ob't servant, ALBERT G. BROWNE.

Flowers, Trees, Shrubbery.

We are not about to philosophize at all, but we wish to ask the farmer—the man who has a house and a lot with it—the owner of any spot of solid earth—why is it that he does not more often realize the power which he has, to make himself master of a literal paradise? Our poets always talk of green leaves, and bright fresh flowers, and noble trees, as things belonging of course to a blessed palace.—Our hymns sing of "flowery plains" and "trees of life im-

mortal:" and all our representations of happy places and scenery include them as a matter of course. Why cannot this be realized? The man who has a house, a garden, a yard, a farm, can, with a little care, have all these, although he can lay no claim to wealth. There is wisdom in cultivating these lovely adornments: and although we promised not to philosophize, we cannot help saying that there is more philosophy in these notions than most good people imagine. There is reason as well as poetry. And he who has about his dwelling these children of the earth, will have among them the songsters of the air: and the fragrance and music which comes on the breath of summer through his opened window will sweeten his intellectual associations as well as regale his senses.

Now, if this little article should be the means of planting a hundred trees and flowers, we should not be surprised to find out, in the end, that it had cherished, also, a hundred domestic virtues.

The Science of Breeding.

It is notorious that the English have excelled all the rest of the world in improving domestic animals. The whole secret consists in understanding a few principles. Mr. Bakewell, the greatest improver of sheep, was unwilling to his death to favor his countrymen with the least information on his system of breeding, and therefore, most sheep growers have concluded that he made important discoveries, with which others were not acquainted; but this is far from being the fact. Bakewell evidently adopted the rule of crossing to remedy defects. If a sheep, for instance, was too light in the hind quarters, he bred it with one that was good in that particular; if the chest was not right in one, he attempted to correct the deficiency by the first cross. His sheep were not so large as others, but they were of quick growth, and fattened readily. The Collings were men of fine discernment, and spent most of their lives in producing a race of cattle of perfect form. The story is well known of one of the Collings selecting and purchasing a calf that pleased him, from its fine symmetry, and which laid the foundation of his celebrated Durhams. There are a few highly gifted gentlemen in England, who are carrying out the principles of the Collings, and who are destined to be England's best breeders.—The draught horse has been the product of science. Animals of great bone and muscular power were selected as breeders, and at every cross improvement was the result.

The fine race horse is also made by crossing with judgment. In this country it is not supposed that more than one colt in forty, from the best race horses, makes a good runner. An old breeder said the other day, that, "if a man in his lifetime was so fortunate as to raise one good racer, he did well." What is the reason that more of the mares put to good horses do not bring colts equal to their sires? It is because there is but little judgment in breeding. If a strange horse comes into the country, with "flaming" certificates, the people conclude he is the animal for every shaped mare; and the experiment terminates in disappointment. A breeder may have a mare good in all her points, except the leg is a little too long, and the loin a little too narrow, and if he puts her to a horse with the same defects, in all probability the offspring will be worse in these points than either dam or sire. A mare put to a horse whose good points will correct her bad ones in the offspring, may bring a fine animal; while if she were put to a horse possessing her own ill shaped parts, the progeny would be obliged to be indifferent.

So much is done by mere 'accident,' (if there be any such thing,) in this country, that we can but repeatedly call the attention of the farmers to the subject of improving domestic animals. At a future period we will endeavor to give a few short rules for crossing different stock, which will be very useful to adhere to. But for the present, we urge upon the consideration of the agriculturist, the importance of providing good pastures, constant supplies of fresh water and comfortable housing for their animals in bad weather. —Good keep and scientific breeding will perform wonders.—*Agriculturist.*